

Amended patent claims

1. A process for producing a coated substrate which has at least one metallic surface, wherein the evaporation-coating glass is deposited in structured form on the metallic surface, and the substrate is coated with an evaporation-coating glass at least on the metallic surface.
2. The process as claimed in claim 1, wherein the evaporation-coating glass is applied by evaporation coating through electron beam evaporation.
3. The process as claimed in one of the preceding claims, which includes the steps of
 - producing at least one negatively structured first coating on the metallic surface,
 - depositing an in particular hermetic evaporation-coating glass layer on the metallic surface which has been provided with the first coating,
 - at least partially removing the first coating and the evaporation-coating glass layer on top of it.
4. The process as claimed in claim 3, wherein the step of producing a negatively structured first coating on the metallic surface comprises the step of uncovering regions of the at least one surface which is to be coated.
5. The process as claimed in either of claims 3 and 4, wherein the step of producing a negatively structured

first coating comprises the step of resist-coating or printing, in particular of resist-coating by means of spin coating and/or spraying and/or electrodeposition and printing by means of screen-printing and/or ink jet printing processes to form a first coating.

6. The process as claimed in one of claims 3 to 5, wherein the step of at least partially removing the first coating comprises the step of lifting off regions of the at least one evaporation-coating glass layer which cover the first coating.
7. The process as claimed in one of claims 3 to 6, wherein the evaporation-coating glass layer is deposited with a thickness which is less than the thickness of the first coating.
8. The process as claimed in one of claims 3 to 7, which includes the step of at least partially uncovering the first coating.
9. The process as claimed in claim 8, wherein the step of at least partially uncovering the first coating comprises the step of planarizing the coated metallic surface.
10. The process as claimed in claim 8 or 9, wherein the step of partially uncovering the first coating comprises the step of mechanical removal of material, in particular by means of grinding and/or lapping and/or polishing.

11. The process as claimed in one of the preceding claims, wherein the evaporation-coating glass is applied by evaporation coating through a mask.
12. The process as claimed in one of the preceding claims, wherein at least two evaporation-coating glass layers are deposited on the substrate.
13. The process as claimed in one of the preceding claims, wherein at least two evaporation-coating glass layers with different compositions are applied.
14. The process as claimed in one of the preceding claims, wherein the evaporation-coating glass layer is applied with a thickness in a range from 0.01 μm to 1 mm.
15. The process as claimed in one of the preceding claims, wherein the composition of the evaporation-coating glass layer is varied while the latter is being applied.
16. The process as claimed in one of the preceding claims, wherein the coating with an evaporation-coating glass layer comprises the deposition of evaporation-coating material from at least two sources by co-evaporation.
17. The process as claimed in one of the preceding claims, wherein the substrate is heated during coating with the evaporation-coating glass layer.
18. The process as claimed in one of the preceding claims, wherein the pressure during coating is at most 10^{-4} mbar.

19. The process as claimed in one of the preceding claims, wherein the evaporation-coating glass layer is structured following the coating operation.
20. The process as claimed in claim 19, wherein the evaporation-coating glass layer is structured by local etching following the coating operation.
21. The process as claimed in one of the preceding claims, wherein the substrate is moved with respect to the coating source during the coating operation.
22. The process as claimed in one of the preceding claims, wherein the step of coating with an evaporation-coating glass comprises plasma ion assisted deposition (PIAD).
23. A coated substrate, in particular producible by the process as claimed in one of the preceding claims, which comprises at least one metallic surface, wherein the substrate is provided with at least one evaporation-coating glass layer on the metallic surface.
24. The coated substrate as claimed in claim 23, wherein the evaporation-coating glass layer comprises a structured coating.
25. The coated substrate as claimed in one of the preceding claims, wherein the substrate has a multilayer coating with at least two evaporation-coating glass layers.
26. The coated substrate as claimed in claim 25, wherein the at least two evaporation-coating glass layers have different compositions.

27. The coated substrate as claimed in one of the preceding claims, wherein the evaporation-coating glass layer has a thickness in the range from 0.01 μm to 1 mm.
28. The coated substrate as claimed in one of the preceding claims, wherein the surface roughness of the coated metallic surface is less than or equal to 50 μm .
29. The coated substrate as claimed in one of the preceding claims, wherein the substrate comprises a solid metal substrate or a composite material.
30. The coated substrate as claimed in one of the preceding claims, wherein the evaporation-coating glass layer has a composition which varies in the direction perpendicular to the coated surface.
31. The coated substrate as claimed in one of the preceding claims, wherein the metallic surface is not planar, for example is curved or stepped.